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ABSTRACT

The Bryant Youth Educational Support Center (YES) was established in the fall of 1968 to meet the needs of Bryant Junior High students who were socially maladjusted and/or academically underachieving. The primary objectives of the center are to improve basic skills achievement and to modify inappropriate behavior. Approximately 50 students attend the center at one time. Most are 8th and 9th graders although several are 7th graders. The center's students made excellent progress in the basic skills area of reading and math as measured by standardized reading and math achievement tests. Similar results were made during the 1971-72 school year. The YES Center has clearly demonstrated during the past two years that low-achieving students who exhibit antisocial behavior have made good progress in basic skill subjects of reading and math. The center's typical student made vocabulary gains of 1.5 months on the Gates-MacGinitie Test and 2.0 months gain on the Stanford Word Meaning Test for each month they were in the program. On the Gates-MacGinitie Comprehension Test the students made 1.8 months gain for each month in the program. They made 2.2 months on the Stanford Paragraph Meaning Tests for each month in the program. The grade equivalent gain for Arithmetic Computation was 1.8 months gain for each month in the program; for Arithmetic Concepts, 1.8; and for Arithmetic Application, 2.3 months gain for each month in the program. (Author/RC)

Minneapolis Public Schools

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BRYANT YES CENTER
STUDENT READING AND MATH GROWTH
1972-73

Robert L. Bergeth, Ph. D.
Title I Program Evaluator

A Title I, ESEA Funded Project

Ideas expressed in this report do not necessarily reflect the official position of the Minneapolis Public School Administration nor the Minneapolis School Board.

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Research and Evaluation Department
Planning and Support Services
807 N. E. Broadway
Minneapolis, Minnesota 55413

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Minneapolis Public Schools

BRYANT YES CENTER STUDENT READING AND MATH GROWTH 1972-1973

Summary

The Bryant Youth Educational Support Center (YES) was established in the fall of 1968 through the combined efforts of the school, community and industry to meet the needs of Bryant Junior High students who were socially maladjusted and/or academically underachieving. The primary objectives of the Center are to improve basic skills achievement and to modify inappropriate behavior. Approximately 50 students attend the Center at one time. Most are 8th and 9th graders although several are 7th graders. During the 1972-73 school year, the YES Center had an operating budget of $178,918. Honeywell Corporation contributed $1,742; State Special Education, $70,798; Title I, ESEA, $66,325; Governor's Crime Commission, $32,409; and the State-Federal Vocational Education reimbursement was $7,644.

The Center's students made excellent progress in the basic skills area of reading and math as measured by standardized reading and math achievement tests. Similar results were made during the 1971-72 school year. The YES Center has clearly demonstrated during the past two years that low-achieving students who exhibit anti-social behavior have made good progress in basic skill subjects of reading and math.

The Center's typical student made vocabulary gains of 1.5 months on the Gates-MacGinitie Test and 2.0 months gain on the Stanford Word Meaning Test for each month they were in the program. On the Gates-MacGinitie Comprehension Test the students made 1.8 months gain for each month in the program. They made 2.2 months on the Stanford Paragraph Meaning Test for each month in the program.

The grade equivalent gain for Arithmetic Computation was 1.8 months gain for each month in the program; for Arithmetic Concepts, 1.8; and for Arithmetic Application, 2.3 months gain for each month in the program.

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October 1973

Research and Evaluation Department

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Minneapolis Public Schools

BRYANT YES CENTER
STUDENT READING AND MATH GROWTH
1972 - 1973

The Bryant Youth Educational Support Center (YES) was established in the fall of 1968 through the combined efforts of the school, community, and industry to meet the needs of Bryant Junior High students who were socially maladjusted and/or academically underachieving. The primary objectives of the Center were to provide basic skills remedial instruction and to modify inappropriate behavior.

The YES Center is designed to help those young people who have such significant educational or emotional problems that it is nearly impossible to meet their needs in a conventional classroom. The students referred to the Center are generally many years behind in basic skills achievement and manifest severe anti-social behaviors, which perpetuate their failure syndrome. The YES Center attempts to identify the student's problem areas and make as much progress toward remediating them as possible so that the student can return to a conventional school situation and profit from it.

A "success oriented" environment has been created at the Center. Conventional grades are not used. Individualized behavioral objectives, written at the student's demonstrated performance level, guide learning and the student who achieves his objectives is rewarded with a "grade" of S for success. Students who continually achieve their objectives get course credit; those who don't try receive no credit.

Although this success orientation is largely responsible for student progress, the Center uses a group program to expedite the reduction of irresponsible behavior and to develop age-and situation-appropriate behavior.

Approximately fifty students attend the Center at one time; while most are eighth and ninth graders, some mature seventh graders have benefited from enrollment at the Center. They attend the Center from 9:00 a.m. until 3:00 p.m. daily with the four morning periods devoted to basic skills instruction and other academic areas. The two afternoon periods are used for an elective period

and a group meeting. The elective period provides an opportunity for staff and students to explore curriculum areas which students find "personally significant", or relevant, in the hope that new curriculum offerings or approaches to conventional offerings can be found. The daily group meetings are the primary behavior modification device used at the Center.

During the 1972-73 school year, the YES Center had an operating budget of $178,918. Honeywell Corporation contributed $1,742; State Special Education, $70,798; Title I, ESEA, $66,325; Governor's Crime Commission, $32,409; and the State-Federal Vocational Education reimbursement was $7,644.[1]

This study reports student progress for 39 students who had been tested on standardized achievement tests in reading and math in the fall and spring. Over this time period, the typical or normative students could expect to gain about six months in grade equivalent gains.

Table 1 provides a breakdown by grade level and sex for the students who were involved in this study.

Table 1

Grade Level and Sex of Bryant YES Center Students
Who Were Involved in This Study

Grade	Male	Female	Total
7	5	0	5
8	11	7	18
9	10	6	16
Total	26	13	39

The section which follows describes the tests which were given to the students.

Description of Achievement Tests

Two achievement tests were given to determine the vocabulary and reading comprehension growth of the Center's students. The Gates-MacGinitie, Survey D, Form 1M, Test in Reading Comprehension and Vocabulary was given to the

[1]The reader who wishes to know more about the Bryant YES Center's program and operation should obtain the Project Director's report for the Bryant YES Center for 1971-72. The report can be obtained by calling or writing the Research and Evaluation Department of the Minneapolis Public Schools.

students on both the pre- and posttest. In addition, the Stanford Achievement Test, Intermediate II Battery, Form X, in Word Meaning and Paragraph Meaning was given.

To measure math growth, the Stanford Achievement Tests in Arithmetic Computation, Arithmetic Concepts, and Arithmetic Applications were given. Form X of the Intermediate II Battery was given on both the pre- and post-test.

These were not the tests designated by the publisher for the grade levels in which the children were enrolled, but they more nearly matched the actual reading and mathematics achievement levels of the students. The Gates-MacGinitie tests were designed for use with students in grades 4 through 6. The Stanford tests were designed for use with students from the middle of grade 5 to the end of grade 6.

The paragraphs which follow describe each test in more detail. The description of each test follows closely the description given by the publisher.

Gates-MacGinitie Vocabulary Test

The Vocabulary Test samples the student's reading vocabulary. This test has 50 items, each consisting of a test word followed by five other words, one of which is similar in meaning to the test word. The student's task is to choose the word which is more nearly synonymous to the test word. The first items are composed of easy, commonly used words. Generally, the words become less common and more difficult as the test progresses. The test is a "power" test and has a 15-minute time limit.

Gates-MacGinitie Comprehension Test

This test measures the student's ability to read complete prose passages with understanding. It contains 21 passages and 52 blank spaces, with each blank space having five possible completions. A student must decide which one of the five completions best conforms to the meaning of the whole passage. The first passages are simply written, but the later ones become progressively more difficult. The test is also a "power" test and has a 25-minute time limit.

Stanford Word Meaning Test

The Word Meaning Test consists of 48 multiple-choice items. In addition to items measuring knowledge of synonyms, of simple definitions, and of read associations, there are included items designed to measure higher-level comprehension of the concepts represented by words, and fullness of understanding of terms.

The selection of words for inclusion in this test was based on considerations of the frequency of occurence of the words in pupils' usage and in material which they read. The appropriateness of all words included, either as stimulus words or as alternative responses, was checked by reference to the available word counts.

The test is timed and students are allotted 12-minutes to complete the test.

Stanford Paragraph Meaning Test

The Paragraph Meaning Test consists of a series of paragraphs, graduated in difficulty. One or more words have been omitted from each paragraph. The pupil's task is to demonstrate his comprehension of the paragraph by selecting from four choices that are afforded him the proper word for each omission. The test includes complete paragraphs about which questions are asked. They are answered by selecting one of four possible choices. According to the authors, the test provides a functional measure of the pupil's ability to comprehend connected discourse involving levels of comprehension varying from extremely simple recognition to the making of inferences from what is stated in several sentences.

Students can make a total of 60 responses to the various items on the test. The test is timed and the students are allowed 30-minutes to take the test.

Stanford Arithmetic Computation Test

According to the test authors, the Arithmetic Computation Test measures proficiency in the computational skills appropriate for grades 5 and 6. The computation items were drawn from the fundamental operations of addition, subtraction, multiplication, and division. The tests are in multiple-choice form; the response "not given" (NG) is included as one of the choices in each item in order to discourage guessing by pupils not able to perform correctly the required operations. The time limit for the test is generous, reducing the emphasis on computational speed. The exercises are representative of the usual curriculum and textbook patterns of content.

The following aspects of the different operations are included:

1. Addition: Carefully chosen distribution of number facts. Carrying to tens' place, to hundreds' place, to thousands' place, and so on. Increasing number of digits in the addends, broken columns. Whole numbers, decimal fractions, money notation. Emphasis upon the carry facts that may occur in multiplication examples.

2. Subtraction: Careful distribution of subtraction facts. Regrouping (borrowing) in a variety of possible combinations of place-value positions. Zero difficulties in both minuend and subtrahend, "hidden zero" as in 213 - 67, disappearing left as in 146 - 83, and with a gap as in 4397 - 889. Systematic coverage of the types of subtraction used in long division.

3. Multiplication: Systematic distribution of the primary facts in multiplication. Carrying in various positions. Inclusion of zeros in different positions of both factors in order to sample all possible sources of error involving place-value position.

4. Division: Systematic sampling of number facts for use in dividends, divisors, and quotients. Careful sampling of the various "types" of division, including the zero in either or both of the factors (divisor or quotient) and the product (dividend).

The four operations are extended to include computation with fractions, solution of a number sentence, and understanding of percent.

Students are allowed 35-minutes to complete the test which contains 35 problems.

Stanford Arithmetic Concepts

The Arithmetic Concepts Test measures in a 32-item multiple-choice test the understanding of place value, Roman numerals, operational terms, the meaning of fractions and of multiplication, interrelationship of the two fundamental operations (addition and multiplication) and their inverses (subtraction and division), directional numbers, number series, number names, estimation, average, number sentences, meaning of percent, decimal fraction positions, common denominator, rounding whole numbers, decimal and common fraction equivalents, reduction of fractions, and geometric terms.

The students are allowed 20-minutes to complete the test.

Stanford Arithmetic Applications

According to the publisher, the Arithmetic Applications Test consists of 39 multiple-choice items which measure reasoning with problems taken from life experiences. The general reading vocabulary has been kept much below the problem-solving level being measured. Computation difficulty has been controlled so that it is only a minor factor.

The pupil is required to apply his mathematical knowledge and ability to think mathematically in practical situations which concern area, volume, ratio, graphs, tables, scales, percent, business transactions, averages, problems with circles and other geometric figures, and the selection of mathematical models for problems.

Students are allowed 32-minutes to complete the test.

Test Administration

The tests for both the pre- and posttest administration were administered under normal testing conditions as described in the test manuals, with testing conditions for both the pre- and posttests held as identical as possible.

The pretest was given when the students entered the program, usually in September and the posttest was given at the end of the year or when they left the program. A total of 170 school days elapsed between the date of the first pretest and the date of the last test of the posttest. Twenty of the 37 students (those who took both a pre- and a posttest) were enrolled in school for this time period. However, a number of students either entered school late or transferred to another school during the year. For this reason, the average daily membership (days enrolled in school) was 134 days. The average daily attendance (days in actual attendance) was 114 or 85%. For the purposes of this report, when grade equivalent scores (GE) are reported, the expected grade equivalent score is 134 ÷ 180 or .7. Thus, approximately 7 months gain might be expected if the students performed typically. The percentages reported in the tables correspond to the fall (pretest) and spring (posttest) publisher tables for 6th graders.

Results of the Standardized Achievement Tests

The results of the progress the Bryant YES students made in reading and math will be presented in two sections. The first section reports the test results for the Gates-MacGinitie and Stanford Achievement Vocabulary and Comprehension Tests. The second presents the results of the Stanford Achievement Math Tests.

Results of Gates-MacGinitie Vocabulary and Comprehension, and Stanford Achievement Word Meaning and Paragraph Meaning Tests

Table 2 reports the results for the reading comprehension and vocabulary sections of the Gates-MacGinitie and Stanford Achievement Tests.

Table 2

Pre- and Posttest Mean Raw Scores, Grade Equivalents, Publisher Percentiles, and Gains for Bryant YES Center Students on the Gates-MacGinitie and Stanford Achievement Reading Tests[1]

N=37

Test	Pretest	Posttest	Gain	Learning Rate
Gates-MacGinitie Vocabulary Test				
Mean Raw Score	21.7	28.7	7.0	
Grade Equivalent	4.2	5.1	.9	1.3
Publisher Percentile	16	21	5	
Gates-MacGinitie Comprehension Test				
Mean Raw Score	20.4	30.1	9.7	
Grade Equivalent	3.7	4.8	1.1	1.6
Publisher Percentile	14	18	4	
Stanford Achievement Word Meaning Test				
Mean Raw Score	15.7	22.4	6.7	
Grade Equivalent	4.4	5.6	1.2	1.7
Publisher Percentile	14	23	9	
Stanford Achievement Paragraph Meaning Test				
Mean Raw Score	14.5	24.4	9.9	
Grade Equivalent	3.4	4.7	1.3	1.9
Publisher Percentile	4	12	8	

[1]The expected grade equivalent is .7 (7 months gain) which was derived by dividing 180 into the average daily membership (134). Learning rate refers to the rate at which the students learned. For example, under the Word Meaning Test the rate is 1.7. This means that for every month in the program the youngsters gained on the average 1.7 months or 1.7 times the expected learning rate of average youngsters.

Table 2 indicates that the Bryant YES Center students made exceptionally good gains in both vocabulary and comprehension regardless of the test used to measure the gain. YES Center students made grade equivalent gains of .9 in vocabulary when the Gates-MacGinitie Test was used, and 1.2 when the Stanford Word Meaning Test was used to determine the gains. Considering that only 7 months had elapsed between the pretest and posttest period for the groups as a whole, these gains must be considered excellent. On the Gates Vocabulary Test the students averaged 1.3 months gain for each month in the program. On the Stanford Word Meaning Test they averaged 1.7 months gain for each month in the program.

When the Comprehension and Paragraph Meaning Test results were examined, the Center's students made excellent grade equivalent gains, slightly better than what was made on the vocabulary tests. The students made GE gains of 1.1 on the Gates-MacGinitie Comprehension Test and 1.3 on the Stanford Paragraph Meaning Test. Students on the average gained 1.6 months per month in the program on the Comprehension Test and 1.9 months gain per month in the program on the Paragraph Meaning Test.

It should be noticed on both the pre- and posttest for the four tests that the students were far below grade level at the start of the program and while they made excellent gains, were still far below grade level at the finish of the program.

Results of the Stanford Achievement Arithmetic Computation, Concepts, and Application Tests

Table 3 on the next page reports the results of the Stanford Achievement Math Tests. Table 3 indicates that on all three measures -- computation, concepts, and application -- the Center's students made excellent GE gains The gain for Computation was 1.1, for Concepts 1.1, and for Arithmetic Application 1.4. Thus, on the average, students made 1.6 months gain for Computation skills for each month in the program and 1.6 and 2.0 months gain for each month in the program for Arithmetic Concepts and Arithmetic Applications respectively.

Table 3

Mean Raw Scores, Grade Equivalents, Publisher Percentiles, and Gains for Bryant YES Center Students on the Stanford Achievement Arithmetic Computation, Concepts, and Application Tests, Mid-October 1971 Pretest and Mid-May 1972 Posttest[1]
N=37

Test	Pretest	Posttest	Gain	Learning Rate
Arithmetic Computation				
Mean Raw Score	11.4	17.5	6.1	
Grade Equivalent	4.8	5.9	1.1	1.6
Publisher Percentile	14	26	12	
Arithmetic Concepts				
Mean Raw Score	7.5	11.4	3.9	
Grade Equivalent	4.3	5.4	1.1	1.6
Publisher Percentile	11	18	7	
Arithmetic Applications				
Mean Raw Score	10.3	15.9	5.6	
Grade Equivalent	4.2	5.6	1.4	2.0
Publisher Percentile	12	23	11	

[1]The expected grade equivalent is .7 (7 months gain) which was derived by dividing 180 into the average daily membership (134). Learning rate refers to the rate at which the students learned. For example, under the Word Meaning Test the rate is 1.7. This means that for every month in the program the youngsters gained on the average 1.7 months or 1.7 times the expected learning rate of average youngsters.

Summary and Recommendations

For the second year in a row evidence indicates that the Bryant YES Center has made outstanding progress with its students in the basic skills subject areas of reading and math (see Appendix for an evaluation summary of the 1971-72 project).

When YES Center students were given the Gates-MacGinitie Vocabulary Test, they made on the average, nine months gain for the seven months they were enrolled in the program. Thus, the students made 1.3 months gain for each month in the program. When a different vocabulary measure was used (Stanford Achievement Word Meaning Test), the gain was 1.2 grade equivalent gains or 1.7 months gain for each month in the program. Thus, on two different vocabulary measures, the students far exceeded normal expectations which was one month gain for each month in the program.

When Gates-MacGinitie Reading Comprehension gains were examined, even better results were observed. The gain was 1.1 grade equivalent gains or 1.6 months gain for each month in the program. Results on the Stanford Paragraph Meaning Test showed students making grade equivalent gains of 1.3 or 1.9 months gain for each month in the program. Thus, on two different reading comprehension measures, the grade equivalent gains for the students far exceeded expected gains.

When mathematics achievement was examined, similar gains were noted. The mean raw score gain for Arithmetic Computation was 1.6 months gain for each month in the program; for Arithmetic Concepts, the learning rate was 1.6 and for Arithmetic Application the students made 2.0 months gain for each month in the program.

On the basis of these facts and those presented earlier in the study, it is clear that most Bryant YES Center students made excellent, if not outstanding, progress in reading and math as measured by standardized reading and mathematics tests.

Although the students made excellent progress in reading and math, most were still far below grade level at the end of the year. At the end of the year the posttest mean vocabulary scores ranged from a grade equivalent of 5.1 for the Gates-MacGinitie to 5.6 for the Stanford Test. In reading comprehension, the range of the grade equivalents for the two tests was 4.7 to 4.8. In mathematics, the mean grade equivalent at the end of the year was 5.4 for Arithmetic Concepts, 5.6 for Arithmetic Applications, and 5.9 for Arithmetic Computations. These students were in grades 7 - 9 and were still 1 - 3 years below grade level at the end of the year. Unless these students continue to receive individualized

instruction and attention in the basic skills area, along with the counseling they have received, it is possible that the successes they made in basic skills will again become failure; this failure in turn might affect their social behavior which was one of the main reasons the students were placed in the Center to begin with.

One thing clearly demonstrated in the past two years by the Bryant Center, is that low-achieving students, some with serious anti-social behavior, have made good progress in learning basic skills.

A P P E N D I X

Results from Previous Year 1971-72

Minneapolis Public Schools

An Analysis of the Bryant YES Center
Student Reading and Math Growth
1971-1972[1]

Previous Summary for 1971-72

Summary

The Bryant Youth Educational Support Center (YES) was established in the fall of 1968 through the combined efforts of the school, community and industry to meet the needs of Bryant Junior High students who were socially maladjusted and/or academically underachieving. The primary objectives of the Center are to provide basic skills remedial instruction and to modify inappropriate behavior.

During the 1971-72 school year, the YES Center operated on a budget of $186,040. Title I, ESEA contributed $56,308 of this amount.

There were 50 students enrolled at the Center during the year. Forty-seven of these students took standardized achievement tests in reading and math in mid-October, 1971 and mid-May, 1972. The students took the Gates-MacGinitie Test in Reading Comprehension and Vocabulary. They also took the Stanford Achievement Test in Word Meaning, Paragraph Meaning, Arithmetic Computation, Arithmetic Concepts and Arithmetic Applications. The students took the same tests on both the pretest and posttest.

The Center's students made excellent progress in reading as measured by the tests. They made an average grade equivalent gain of 1.4 on the Gates-MacGinitie Vocabulary Test and 1.5 on the Stanford Achievement Word Meaning Test. Over the pre- and posttest period of time, the typical or normative student could expect to gain about seven months (.7) in grade equivalent gains. Only three of 47 students scored below this norm (.7 gain) on the Vocabulary Test and only six had a grade equivalent score of less than .7 on the Word Meaning Test.

The students made an average grade equivalent gain of 1.2 on the Gates-MacGinitie Comprehension Test and a gain of 1.5 on the Stanford Achievement Paragraph Meaning Test. Only four students acquired less than the expected gain (.7) on the Comprehension Test and give students had less than expected gains on the Paragraph Meaning Test.

The students also made good if not excellent progress in Arithmetic Computation skills, understanding Arithmetic Concepts and Arithmetic Application. In all three areas, the average student made a grade equivalent gain of 1.0.

[1]This is a summary of an evaluation of the Center for the 1971-72 school year. The report is entitled: An Analysis of the Bryant YES Center Student Reading and Math Growth, 1971-72, Minneapolis: Minneapolis Public Schools, August 1972.

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